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AMERICAN FRUIT GROWER

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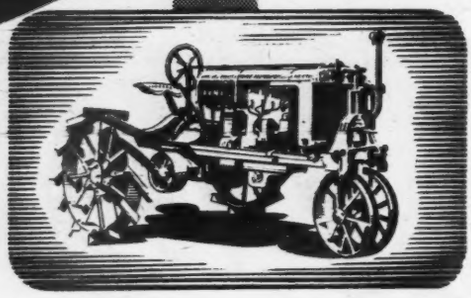
NOVEMBER 1943

20th Birthday

OF THE FARMALL

and the Farmall System of Farming



The Original Farmall - Born in 1923

FOR TWENTY YEARS the Farmall IDEA has been the foundation for *all* experiments in general-purpose tractor design....

TODAY 4 sizes of modern FARMALLS—the sturdy "A" and "B", and the big powerful "H" and "M"—with special machines and tools for every crop, operation, and season, lead the way in the battle for food.

In 1923 came FARMALL, the first true all-purpose tractor . . . the farm power unit designed from the soil up . . . the tractor that *started from the implement end.*

Harvester built it, based on EXPERIENCE—and that made SENSE!

After 1923, the call for farm power really swept the nation. It was Farmall that made the old dream of horseless farming come true. Here was the tractor that did almost everything. From every state came comments like these: "Not a horse or hired man on my place"... "At least ⅓ cheaper to farm this new way"..."My Farmall works in crooked rows where a snake would get lost"..."My two boys, 13 and 11, do anything that I can do with it."

Pretty soon there were a hundred thousand, and then a half-million Farmalls. Today there are more Farmalls producing food on American farms than all other makes of general-purpose tractors *combined.*

When war struck our nation, a Farmall army, with an infinite number of working tools, went into battle. The greatest food crisis in our history was at every farm gate—and the *Farmall System* was ready!

* * *

So we mark the 20th Birthday of this most popular of all tractors. There's a proud record of progress between the old "Original" of 1923 and the streamlined red Farmalls of today—endless improvements in power and machines. Today millions know that Farmall is the ideal power for any farm, whatever the size. Farmall showed the way, and *will* show the way when the boys get home from war.

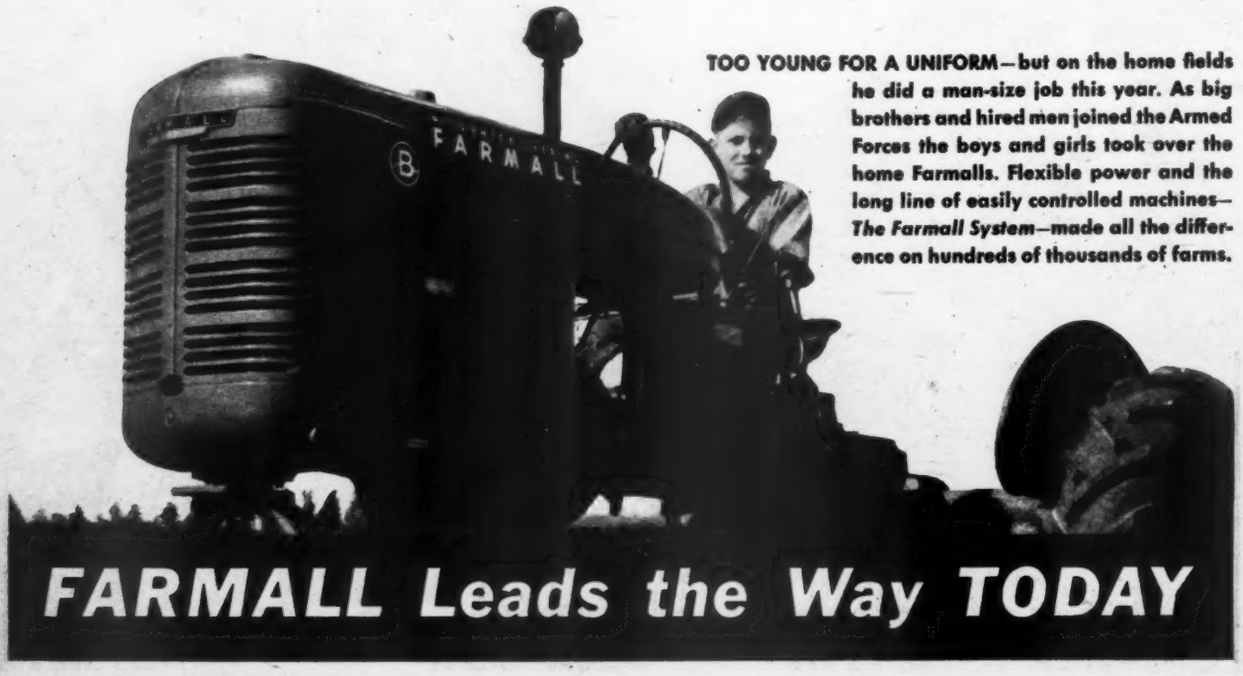
Farmall and Harvester are pledged to the faithful service of that great American institution—the family farm.

INTERNATIONAL HARVESTER COMPANY
180 N. Michigan Ave., Chicago 1, Ill.

*

FOOD fights for FREEDOM
and the
FARMALL fights for FOOD

*



TOO YOUNG FOR A UNIFORM—but on the home fields he did a man-size job this year. As big brothers and hired men joined the Armed Forces the boys and girls took over the home Farmalls. Flexible power and the long line of easily controlled machines—*The Farmall System*—made all the difference on hundreds of thousands of farms.

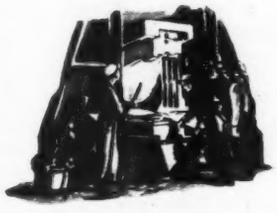
FARMALL Leads the Way TODAY

"WE'RE WORKING TOGETHER

-just as America's Armed Forces are Fighting Together-

TO WIN THIS WAR!"

Two Types of Pratt & Whitney Aircraft Engines, One for B-24 Liberator Bombers and One for C-47 and C-53 Cargo Planes



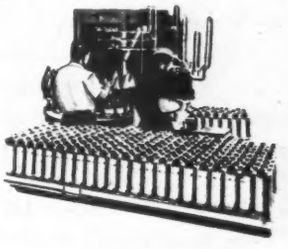
Millions of Pounds of Aluminum Forgings Every Month

Magnesium Castings for Aircraft Engines

It takes *teamwork* to win wars; and Chevrolet is a willing *teamworker* with America's armed forces and with other war producers in this greatest of all world conflicts. . . . Our role in America's war effort is twofold. . . . We are a *major producer*—building Pratt & Whitney aircraft engines, anti-aircraft guns, high-explosive and armor-piercing shells, aluminum and steel forgings, iron and magnesium castings, military trucks and other products for our fighting men. . . . And we are also a *major supplier* for other war contractors—making vital parts by the million for more than 120 other important war producers. . . . America's industrial leaders are *working together* and winning the battle of production, just as America's armed forces are fighting together and winning battles in the field. Chevrolet is proud to be playing its full part by serving as major producer and major supplier too.

Today Chevrolet Has More Than Sixteen Million Square Feet of Floor Space Devoted to the Production of Volume for Victory

90-mm. Anti-Aircraft Guns for America's Armed Forces



High-Explosive and Armor-Piercing Shells

Thousands Upon Thousands of Military Trucks

CHEVROLET

DIVISION OF

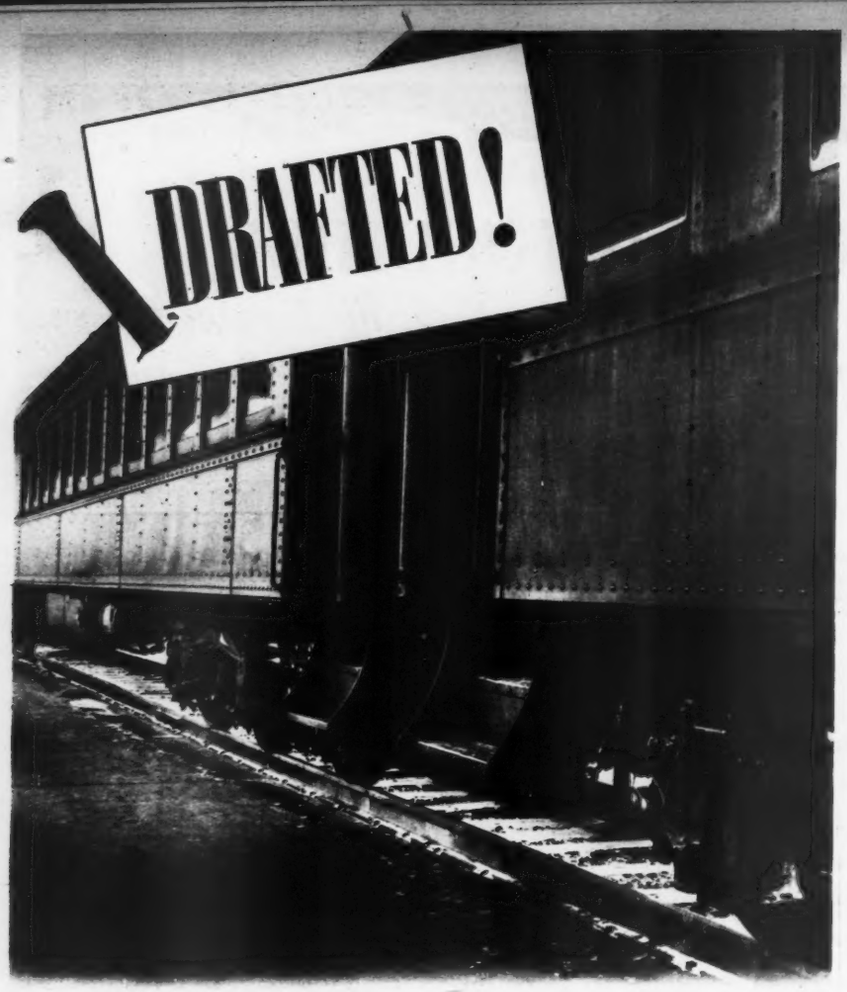
GENERAL MOTORS

BUY BONDS

FASTER

BRING VICTORY

CLOSER



TODAY half of all the Pullman cars and a third of all the railroad coaches are busy carrying troops in special car and special train movements.

With what equipment is left, the railroads must carry soldiers on furlough and people on war business. And at the same time haul 1⅓ million tons of freight a mile every minute, day and night.

Altogether this adds up to a load more than twice as big as in the last war.

This is the reason why everyone can't "travel as usual." It may be impossible to get a berth or even a seat. And where military traffic is heaviest, troop trains may delay your arrival.

So think before you plan a trip. And if you *have* to go, please help in these four ways: *Avoid travel peaks.* Ask your ticket agent about the less crowded trains and the best days to take them. *Cancel promptly.* If your plans change, release your reservations at the earliest opportunity. *Travel light.* If possible limit your hand baggage to one piece. Other baggage can be checked. *Tag all bags.* Put your name and complete address on all luggage. It avoids mistakes and loss.

December 10
"CLOSING DATE" FOR CHRISTMAS PACKAGES

This year—when war traffic has first call on all shipping services—it is more important than ever to send your Christmas packages early.

Pack them adequately, wrap and tie them securely, address them right and get them started (to points in the United States and Canada) by *December 10.*

BACK THE ATTACK — WITH WAR BONDS

ASSOCIATION OF AMERICAN RAILROADS

ALL UNITED FOR VICTORY

CALENDAR OF COMING MEETINGS and EXHIBITS

Nov. 16—New Hampshire Horticultural Society annual meeting, Hotel Carpenter, Manchester.—Alfred L. French, Sec'y, Concord.

Nov. 16-17—Wisconsin Horticultural Society annual meeting, Avalon Hotel, Waukesha.—H. J. Rahmlow, Sec'y, Madison.

Nov. 18-19—Annual meeting of the Iowa State Horticultural Society and affiliated societies. Meeting to be held at Iowa State College, Ames.—R. S. Herrick, Sec'y, Des Moines.

Nov. 29-30—Minnesota State Horticultural Society annual meeting and Minnesota Fruit Growers Association, Curtis Hotel, Minneapolis.—J. D. Winter, Sec'y, St. Paul.

Dec. 1—Arkansas State Horticultural Society annual meeting, Lincoln.—Thomas Rothrock, Sec'y, Springdale.

Dec. 1-3—Virginia State Horticultural Society annual meeting, Hotel Roanoke, Roanoke.—W. S. Campfield, Sec'y, Staunton.

Dec. 6-8—Washington State Horticultural Association annual meeting. Meeting place will be announced later.—John C. Snyder, Extension Horticulturist, Pullman.

Dec. 7-8—Connecticut Pomological Society annual meeting at Hartford.—H. A. Rollins, Fruit Specialist, Storrs.

Dec. 7-9—Michigan State Horticultural Society meeting, Civic Auditorium, Grand Rapids. Michigan Apple Show and commercial exhibits will be held in connection with this meeting.—H. D. Hootman, Sec'y, East Lansing.

Dec. 8-9—Tennessee State Horticultural society annual meeting, Knoxville.—A. N. Pratt, State Horticulturist, Nashville.

Dec. 9-10—Peninsula Horticultural Society annual meeting, Salisbury, Md.—T. F. Manns, Sec'y, Newark, Del.

Dec. 13-15—American Pomological Society in joint session with State Horticultural Societies of Missouri, Illinois, Iowa, Indiana, Kansas, Nebraska, Arkansas, Kentucky, Tennessee and Wisconsin, De Soto Hotel, St. Louis, Missouri.—T. J. Talbert, Pres., Columbia, Mo.

Dec. 16-17—Indiana Horticultural Society annual meeting, Hotel Severin, Indianapolis.—Monroe McCown, Sec'y, Lafayette.

Jan. 5-6—Annual meeting of Maryland State Horticultural Society, Hagerstown. Subject to change.—A. F. Vierheller, Sec'y, College Park.

Jan. 5-6—Massachusetts Fruit Growers' Association annual meeting, Horticultural Hall, Worcester.—Lawrence Southwick, Research Assistant, Amherst.

Jan. 12-14—Annual meeting of New York State Horticultural Society, Rochester. —Roy P. McPherson, Sec'y, LeRoy.

Jan. 17-18—Southern Illinois Horticultural Society meeting, Carbondale.—Curt E. Eckert, Sec'y, Belleville.

Jan. 26-28—Eastern meeting of New York State Horticultural Society, Kingston.—Roy P. McPherson, Sec'y, LeRoy.

Feb. 10-11—Annual meeting of Kansas State Horticultural Society will be held in conjunction with Farm and Home Week, Kansas State College, Manhattan. —Geo. W. Kinkead, Sec'y, Topeka.

AMERICAN FRUIT GROWER

E. G. K. MEISTER, *Publisher*

SHALL I PLANT PEACHES?

By CARROLL R. MILLER

President, National Peach Council

THE glitter of brand-new gold still blinds. Peaches this past summer were $7.00 per bushel and up: $3,000 per carload:—and all over the country, men with land are figuring excitedly:—"One hundred trees per acre; 3 bushels per tree; 300 bushels or $2,000 per acre. By golly, I'm going to plant peaches."

We hear this from all quarters; from growers who went through 1941 and lost their shirts on 75 cent peaches: from rank amateurs possessed of some kind of ground: from older growers who went through the 1920 apple boom when supposedly sane growers figured that $8.00-a-barrel apples were here to stay, and that apple orchards hence were a good investment at $1,000 per acre. The Appalachian belt has been twenty years recovering from that debauch. And here it is again, with peaches this time.

Only three facts from the record need to be quoted here:—

1. There are 11 million more peach trees in the United States than there were in 1935:—9 million more "non-bearing"; 2 million more "bearing" (U. S. Census). That means 15 million bushels of "new" peaches per year, on the average. The peach crop in 1941 was 69½ million bushels or 15 million above the 10-year average of 55 million bushels. In 1942 it was 66 1/3 million bushels or 12 million over the average. That "new" 15 million bushels is here, barring catastrophies such as 1943's Eastern freeze-out.

2. Growers received exactly 82.7 cents per bushel, average for the 10 years 1932-41 (USDA): or about 1/9 of last summer's price. And that 82.7 cent average was with fewer peaches than we will average in years ahead, by 15 million bushels.

3. In 1920 total production of the 19 main fruits and vegetables in the U. S. was 12 million tons. It was over 20 million tons in 1940. That means 8 million "new" tons of fruit and vegetables to be sold to an almost stationary population. That means competition, in selling the bigger peach crops ahead, the like of which we have not seen before.

The bright hues of the 1942 and 1943 peach deals were reflections mostly from the livid fires of War:—entirely temporary.

Except for crop catastrophe, governmental hand-outs or a concerted market promotion program such as is not now in sight for the industry, peach growers will face 60 cent f.o.b. peaches—or less if amateurs crowd in—when the fires of war have burned themselves out, within a season or two; before trees planted now can bear.

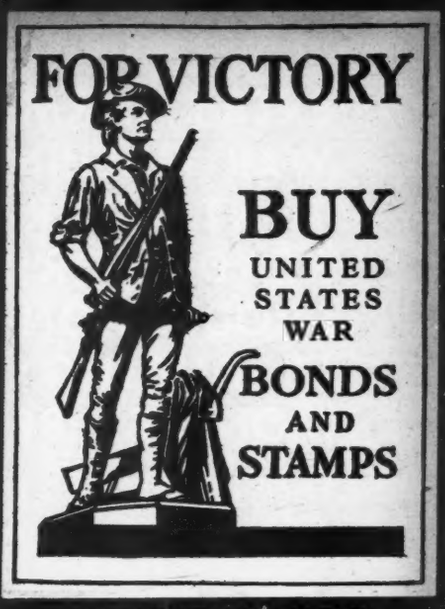
When that time comes, the survivors will be only the best growers with the most favorably located orchards. Only these can make money on such averages as 82.7 cents, or 60 cents per bushel.

The amateurs and the badly-planted ones will join that mournful procession that files slowly toward the sheriff's office after all such "flash" years of war.

If, after studying intently the 3 facts stated above, you still think peaches are easy money, make sure of the following before you plant:—

1. That your soil is really peach land; that it is excellently located as to air drainage, frost pockets, and moisture (fungus troubles).
2. That you have the right and profitable varieties; and sufficient acreage to carry your investment.
3. That you have a "natural" peach grower to manage it.
4. That you have enough cash to carry you through 5 bad years.

Vol. 63, No. 11, AMERICAN FRUIT GROWER, published monthly by American Fruit Grower Publishing Co., 1370 Ontario St., Cleveland 13, Ohio. Subscription rates: Domestic, except Cleveland, 3 years $1.00. One year, 50 cents. Cleveland, Canada and foreign, $1.00 per year. Single copy, 10 cents. Entered as second-class matter at Post Office at Cleveland, under the Act of March 3, 1879. Additional entry at Mount Morris, Illinois. Printed in U. S. A.



NATIONWIDE NEWS

MAXIMUM prices for apples for home consumption are set at levels which will mean a season's national retail average of between 10 and 11 cents a pound. The retail maximum for the month of October, the low point in the season, will average about 9½ cents a pound. This is a reduction of approximately one cent a pound under the going national average. The regulation provides a standard price by location, without regard to type, grade or size.

★

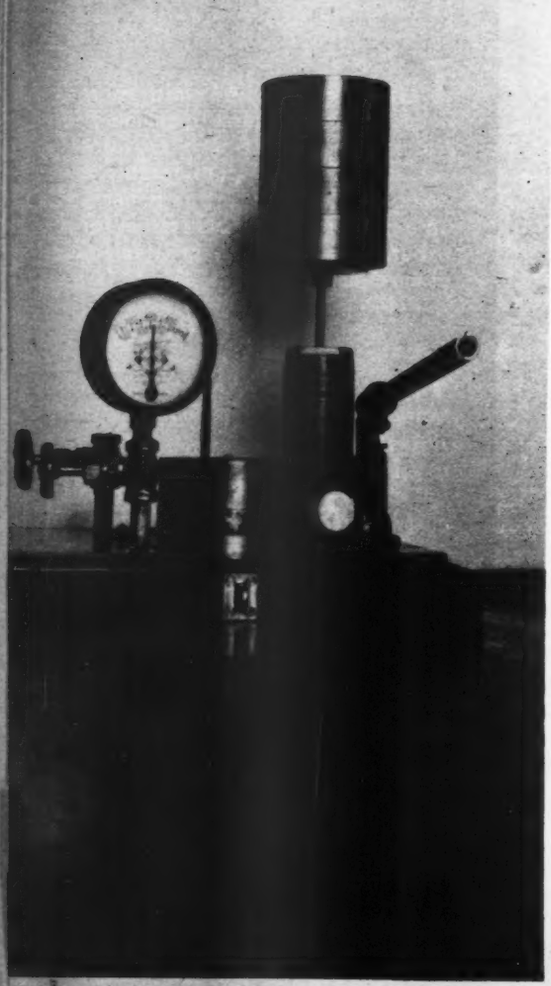
THE War Food Administration announced a new farm machinery distribution program which provides for actual rationing of considerably fewer items than in 1943 and in general sets up a much more flexible system for distributing the relatively greater amount of machinery to be available to farmers in 1944.

★

THE War Food Administration urges farmers to help in making the 1943-1944 distribution of fertilizer fully effective by making immediate application for mixed fertilizers needed now and next spring and accepting delivery during fall and winter months. WFA officials, in charge of the fertilizer program, stress that farmers can expect to have an adequate supply of fertilizer during the 1943-1944 crop season by applying for it and taking delivery as soon as possible, thereby making it possible for manufacturers and dealers to deliver fertilizer over a long period. In all, it is expected that between 10 and 12 per cent more chemical fertilizer will be available to farmers in the 1943-1944 crop season than during the past season, when farmers used a record of 10.5 million tons.

EVERY FARM MACHINE IS A WAR MACHINE. MAKE SURE THAT YOUR MACHINE IS READY FOR NEXT YEAR'S PRODUCTION BY SERVICING IT DURING THE WINTER MONTHS. BE FOREHANDED

WILL YOUR SPRAYER BE READY FOR NEXT YEAR'S CROP ?



Interested fruit growers are shown in the above photograph at a sprayer clinic held in Belmont county, Ohio. At this clinic sprayer operators discussed the problems of operating and adjusting the machine and other problems relating to the growing of fruit. The photograph below, left, shows a home-made dead weight tester. At sprayer clinics 75% of the gauges brought to such meetings for tetsing were found to be badly out of accuracy.

By R. D. BARDEN
Ohio State University

DURING the past two years due to the scarcity of material only a limited number of sprayers have been manufactured. The fact that few new sprayers were made has thrown an extra burden on the sprayers already in use as well as made it necessary to see that they are put into the best condition for next year's crop. The War Production Board has granted an increase in the number of sprayers to be manufactured during this coming year. Limitation Order No. 257 permits the manufacture of power sprayers to 71% of the number produced in 1940. Pumps will be manufactured in the proportion of 139% of 1940. While this number of machines is considerably larger than the past year, it still will not be enough to satisfy the demands of growers for new equipment.

It is easy to put things off during the winter months when there is little indication of need for a machine or especially if you do not have a heated shop in which to work. Labor, however, will be more scarce on farms this coming year than it was in the past. There is a growing need for servicing all equipment during the winter months.

1. Repairing machines during winter months will save valuable working time during next spring and summer.

2. It will give implement dealers time to order parts. Parts needed for the normal service operations can be replenished in the dealers' bins to take care of the emergency during the use period of the year.

3. It will help the general labor situation by spreading out the work in the factories, warehouses, dealers' shops, and transportation. Normal overhauling during the winter months will make servicemen available for repair during the operating time of the year.

4. You will assist in the war effort by making more efficient use of the iron and steel allotted for manufacture. This year's production of parts will not be limited; however, if the flow of parts is somewhat uniform throughout the year, it will make raw materials available on a more

(Continued from page 10)

READ AND REFLECT

In this issue two authorities size up the peach situation. On page 5 Carroll R. Miller, president of the National Peach Council looks ahead and raises the question: "Shall I Plant Peaches?" On this page Dr. M. J. Dorsey, head of the Department of Horticulture, University of Illinois, presents a review of the 1943 peach season and offers sound advice on future peach growing. Read both articles carefully and thoughtfully. —Editors.

A REVIEW OF THE 1943 PEACH SEASON

By M. J. DORSEY

University of Illinois

"The price of peaches during the season of 1943 will be remembered by many growers who recall the price level of former years as a dream if not a mirage."

NOW that the leaves are down in the peach orchard at the end of another summer, this is a good time to think back over the past season and take stock of the situation while things are fresh in our minds. The year 1943 will be remembered as having some unique features. So many things were different and presented us with such contrasts that we may well make note of them just for the record.

Seldom have we had a year when the demand was so active for peaches. Several factors contributed to this, chief of which may be mentioned the relatively light crop, second, the emphasis upon home canning and, third, the high income level of people generally. These three main factors brought the buyer right to the orchard where the grower was placed in the position of an umpire to decide who should or should not go home with peaches.

While the transportation problem promised to be acute as the season approached, actually, partly on account of the light crop and the heavy local demand, there was very little loss in this direction. The season closed with the crop well distributed with both truck and rail shipments playing an important part in the movement of the crop to the market.

The price of peaches during the season of 1943 will be remembered by many growers who recall the price level of former years as a dream if not a mirage. Heretofore we had learned to look for the price level somewhere below the horizon but this year, with no ceiling to deal with, the price level seemed at least to be up in the clouds. In all fairness, however, under the conditions which prevailed, growers generally asked that there be no cutting prices for peaches and this was granted by the government. In this respect the season ended favorably to the peach grower. However, the problem of ceiling prices will be up for consideration next year. Let us hope that a decision on this point will not be made before the extent of crop for 1944 can be fairly accurately estimated.

Never before have peach growers in general been up against such an acute labor situation. In many instances the local help proved to be adequate, especially for isolated orchards or small holdings. On the other hand, the large orchards, especially when planted to one variety, Elberta in most instances, presented the grower with serious problems. At best *management* at picking time is so often a "bottle neck" but this year trouble from this angle was widespread with so many of the boys in uniform. All told, as the season advanced the "job got done" and the headaches gradually eased up a bit, and now are a thing of the past if not forgotten.

However, peach growers should not forget that this was generally a light crop year and that we are planted up for a "bumper" crop in the nation as a whole if all of the peach growing sections "hit" the same year. This possibility must be faced boldly for the coming year. The situation will be aggravated very greatly by a still further loss of trained personnel. This makes it increasingly difficult for the grower to handle the inexperienced help problem with the peak loads in the picking and packing job so emphasized by either variety or heavy regional demand.

There should be much encouragement in the fact that we are getting organized to meet just such emergencies. With this season's experience as a guide next year, a bigger job should be easier. The organization of

(Continued on page 12)

RODENT CONTROL IN STORAGES

AS pointed out in the article appearing on the opposite page there are many precautions which should be taken, in addition to poisoning and trapping, to aid in the control of rodents in fruit storages. Five practical pointers are outlined below:

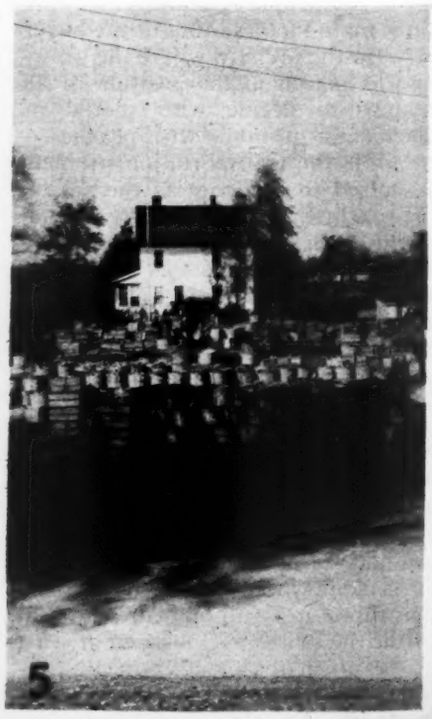
1. Rats or mice may enter storages below doors, through windows, ventilators, drains or around pipes and wires. Guard against such invasion.

2. Unless protected by close-meshed wire guards, the ventilators shown in the picture can serve as entrances for rats or mice in this well-built storage.

3. Sanitation is an important factor in any rat control program, therefore, it is a wise policy to clean up litter within and without a storage house.

4. Debris left lying around the outside of even a well-built storage house affords protection for rats and mice the while they seek an entrance.

5. Many mice enter field boxes or other containers while in the orchard or stacked outside, as illustrated, before removal to the storage building. Use of bait stations and poisoned baits at such a time will destroy large numbers of them.



RODENT CONTROL IN ORCHARD AND STORAGE

WORTH CLIPPING

PART III

Disking under heavy mat of grass to destroy nesting places of mice which prey upon the trees in the W. L. Shoff Orchards, Peoria, Ill. Photograph courtesy Caterpillar Tractor Co.

ALTHOUGH rats and mice do considerable damage to stored foods of all kinds throughout the year, they are particularly destructive to fruits and vegetables in storage during the fall and winter. These destructive rodents include the Norway or brown rat (Rattus norvegicus), the meadow mouse (Microtus pennsylvanicus pennsylvanicus), the deer or white-footed mouse (Peromyscus spp.), and the house mouse (Mus musculus). These mammals should be controlled not only because of their economic destruction to stored fruits and vegetables, containers and storage structures, but also because they are a menace to human health. As they may carry disease organisms on their feet, in their fur and in their intestinal tracts, they often spread diseases in foods.

The brown rat is the most destructive of these rodents and the most difficult to control because of a high degree of intelligence. Therefore, to cope successfully with the rat it is absolutely essential that everyone become acquainted with the fundamental characteristics and habits of the animal.

The brown rat is found everywhere in the United States and is largely dependent upon man for both food and shelter. As it is naturally a burrowing rodent, it may be found in open fields, along ditch banks and water fronts, but the largest populations are found in burrows under or adjacent to buildings or within man-made structures.

The fur of the brown rat is soft and usually a grayish brown but changes to a dirty gray on the belly. However, the color of individuals varies considerably. The average adult weight is about three-quarters of a pound and the average length of the adult brown rat is 16 to 18 inches, including the tail, which is about 7 inches long and shorter than the body.

The number of young in a litter varies from 6 to 22, the average being 9. Although the gestation period is 21 to 25 days, the number of litters produced in a year varies from 3 to 12. The young are blind and naked at birth but grow rapidly and may breed when 3 to 4 months old. The life span of a rat is 3 to 5 years. Rats' nests are usually built of scraps of paper, rags, grasses or any other soft material and placed in underground burrows, under floors or other places that afford shelter near available food.

The rat is communal in its mode of living. Its numbers vary locally from year to year, but there is no known cycle of rat abundance.

The brown rat is quick and is both an expert climber and swimmer. Further, it may jump to a height of about two feet.

The rat is omnivorous and will eat almost any food that either man or domestic animals consume. This explains the great ease with which they adapt themselves to any environment. Of course, if plenty of foods are available, the rat will take those which it has preference for. Since they subsist largely upon foods produced by man, they are most abundant where foods for human consumption are either raised or stored in greatest quantity.

The most common means of entrance by these rodents is through some crevice, hole, or weak spot in the structure, due to faulty construction, lack of repair and improper location of the building or storage room.

(Continued on page 10)

AS A PART of the fruit grower's battle to conserve food during this total war, it is highly important for him to reduce losses to orchards and stored fruit crops by curtailing damage done by several species of rodents. The accompanying article on "Rodent Control In Storage" is the third of a series of five noteworthy articles on "Rodent Control in Orchards and Storage." This article has been prepared especially for AMERICAN FRUIT GROWER by Robert M. Borg, Assistant District Agent, Division of Predatory and Rodent Control, Fish and Wildlife Service, United States Department of the Interior. If after reading the accompanying article you desire further information, it is suggested that you write your County Agricultural Agent or the District Agent, Fish and Wildlife Service.—Editors.

It is a wise precaution to use a close-mesh wire guard to protect the young stock of in-arch or approach grafts from damage by rodents.

RODENT CONTROL

(Continued from page 9)

Therefore, the entire storage structure should be thoroughly checked for possible openings or defects and these should be repaired and made proof against rats and mice before fruits or vegetables are stored.

Rats or mice may enter storage houses below doors, through windows, ventilators, drains, or around pipes and wires, but they usually burrow beneath retaining walls and floors. Such openings may be repaired cheaply by using a rich mixture of concrete, 8-mesh galvanized hardware cloth or sheet metal. *A few dollars spent in repair materials and labor may save several hundred dollars of much needed food.*

Even though the storage may be made proof against rats and mice, care must be taken to keep doors closed. Rodents may be carried into buildings in boxes or crates of fruit.

A very important factor in any rat control program is sanitation. Therefore, it is a wise policy to keep the entire premise in a clean and orderly condition, especially around the storage house. A rat will not remain where safe and comfortable shelter is not available.

Although rat-proofing measures for the permanent exclusion of rats should be undertaken before fruits are stored, destruction of the animals also is important. There are numerous materials and contrivances designed for rat destruction, but only a few of them are effective.

The most efficient means of killing rats is by poisoning. Success depends largely upon the foods used in baits, methods of mixing and placement. A highly poisonous preparation can be used in storage houses with relative safety if precautions are taken.

Barium carbonate, finely ground white arsenic and zinc phosphide are recommended. Barium carbonate is a heavy white mineral salt (precipitated), mildly poisonous, tasteless, odorless, slow in action, and inexpensive. It is mixed in the proportion of 1 part by weight of poison to 5 of food or bait. *Antidote*—Call a physician, give an emetic consisting of either mustard or salt dissolved in warm water, or induce vomiting by inserting finger in the back of the throat. Follow vomiting with a liberal dose of Epsom or Glauber salts.

White arsenic (arsenious oxide) is a powdered compound, highly toxic, practically tasteless and odorless, rapid in action, and more expensive than barium carbonate. It is mixed at the rate of 1 part by weight of poison to 32 parts of food. *Antidote*—Call a physician, give an emetic of mustard in warm water. After vomiting, give egg albumen as a demulcent.

Zinc phosphide is a fine, fairly heavy, black, highly toxic poison; but it oxidizes fairly quickly when exposed to air and dampness. It has a phosphorus smell and taste, which seems attractive to rats and mice. Mix at the proportion of one ounce of zinc phosphide to six pounds of food. *Antidote*—Call a physician, give ½ teaspoonful of copper sulphate (blue stone) in half pint of water. If vomiting does not occur, repeat in 10 minutes. After one hour give 2 teaspoonfuls of Epsom Salts in a glass of warm water. *Do not give any milk, lard or other oil*, as this will increase the absorption and make the poisoning worse instead of better. Following are two permanent-type poisoned bait formulas for rat control in storage:

1. 10 pounds of freshly ground bread crumbs or rolled oats
   1 pound peanut butter
   4 ounces (8 level tablespoonfuls) cottonseed oil
   2 pounds 2 ounces barium carbonate

Add the barium carbonate to the oil and stir into mixture of peanut butter and bread crumbs for 10 minutes.

2. 5 pounds of freshly ground bread crumbs or rolled oats
   5 pounds of freshly ground beef or horse meat
   1 pound pastry flour (spreader)
   6-2/3 ounces finely ground white arsenic

Add the pastry flour to the arsenic and mix thoroughly. Then stir this material into the mixture of ground meat and bread crumbs for 10 minutes.

In Formula 1, one may use 6-2/3 ounces of white arsenic instead of the 2 pounds, 2 ounces of barium carbonate; and this poison bait is quite effective. In Formula 2, a substitution of 2 ounces of zinc phosphide may be made for the 6-2/3 ounces of white arsenic, but this is not a permanent poison bait. A third formula is carried below but will not make a permanent poison bait:—

3. 10 pounds of freshly ground bread crumbs or rolled oats
   1 pound peanut butter.
   4 ounces (8 level tablespoonfuls) cottonseed oil
   2 ounces zinc phosphide

Add the zinc phosphide to the oil and stir into the mixture of peanut butter and bread crumbs for 10 minutes.

For best results, mix the above poisoned bait with a large spoon in an enamel-ware dish. Do not use bare hands to mix the bait. After mixing, wash utensils thoroughly, label, and store carefully. All unused poisoned bait must be destroyed. And all poisons should be kept in a safe place.

(To be concluded in a forthcoming issue)

SPRAYER REPAIRS

(Continued from page 6)

uniform basis. Do not tie up repair parts that are *not* needed in next year's production.

Since you have operated your machines in the field, you are in a better position to know what condition they are in than any other person. Go over each machine carefully after you have finished using it because then you will remember the parts that gave you difficulty during this past season. List all the parts that are needed. Determine what you need to do to put the machine in first class working order. Below are a few suggestions that may be of assistance to you.

1. Remove all broken and badly worn parts.
2. Place your order immediately for those parts that must be replaced.
3. Install all new or welded parts on the machine.
4. Clean all grease cups and oil cups. Be sure that each bearing gets proper lubrication. Replace all damaged grease fittings. If you have a Zerk gun, put a Zerk fitting in the top of the grease cup.
5. Check over the entire machine and tighten all bolts and nuts. Replace all bolts that have become worn due to vibration in the machine.
6. Straighten all shields and bent metal parts. Besure that all the working parts are well guarded so that the machine can be operated safely. This is especially important for power take-offs and similar exposed shafts.
7. Check over the chains for tightness and direction of operation. Open link chains should be put on with the small end of the link leading and the open side out.
8. Give particular attention to the engine on your sprayer. If it requires a general overhauling, take it to your most convenient shop that is equipped to give you complete service on the engine. If the engine is to be stored during the winter months, drain all the fuel from the tanks, fuel line, and carburetor to prevent gum formation. Coat the inside of the cylinder with oil by removing the spark plugs and pouring oil through the spark plug holes. Turn the engine over several times to be sure the surfaces are thoroughly coated. Drain out the old crankcase oil to get rid of the water, unburned fuel, and acids that collect in the crankcase. Fill the crankcase with fresh oil. Store the sprayer in a building so that it will not be ex-

(Continued on page 12)

STATE NEWS

MICHIGAN—The annual meeting of the Michigan State Horticultural Society will be held in the Civic Auditorium, Grand Rapids, on December 7, 8, and 9, 1943. In connection with this meeting the Michigan Apple Show and Commercial Exhibits will be held. A program to meet the present day needs of growers in regard to labor shortages, price ceilings, packages, and insect and disease control will be presented.

Excellent harvest weather during the past ten days has been of advantage to apple growers in harvesting the apple crop with labor shortages prevailing. Many apples ran small in size which is reducing the total bushels.—H. D. HOOTMAN, Sec'y, East Lansing.

WISCONSIN—The annual convention of the Wisconsin Horticultural Society will be held in the Avalon Hotel, Waukesha, on November 16-17. There are many production problems in which the growers are tremendously interested, and these will be discussed at the meeting.

Mr. Minard Farley, Jr., Secretary-Manager of the Michigan State Apple Commission, will talk on the National Apple Institute and its work, and growers will be invited to form a Wisconsin Apple Commission.

The apple maggot has not been fully controlled in Wisconsin. Dr. A. C. Hodson, entomologist of the Minnesota State College, will talk on control measures discovered in that state, collaborating with Dr. C. L. Fluke, Chief of the Entomology Department of the University College of Agriculture.

Dr. G. W. Keitt and J. Duain Moore of the Wisconsin Pathology Department will discuss scab control and further work with Elgetol as a ground spray. Prof. J. G. Moore will discuss vegetable growing for the orchardist, and Dr. R. H. Roberts will talk on wartime pruning and recommendations for wartime culture in the orchard.

Mr. G. C. Oderkirk of Purdue University will discuss the important question of mouse and rabbit control.

The Woman's Auxiliary will have a full two-day program at which many interesting subjects will be discussed such as vegetable growing, small fruit culture, etc.—H. J. RAHMLOW, Sec'y, Madison.

TENNESSEE—The Tennessee State Horticultural Society will meet this year in Knoxville on December 8 and 9. Foremost on the program will be the consideration of labor shortages and price ceilings, which have been major problems this year. A meeting of the Tennessee Peach Council is scheduled for the same place and dates. In spite of flush prices this year, marketing promises to be very difficult in the near future. —A. N. PRATT, State Horticulturist, Nashville.

MARYLAND—The 1943 peach and apple crops are safely out of the orchards, but this crop year will long be remembered. The great loss of apples on the ground last fall was not very comforting, and then came the late spring freezes, followed by one of our greatest dry spells. The orchard labor situation was a source of great worry, but by a lot of hard work by various agencies and growers, it was possible to use available local labor, as well as some laborers imported from Bahama or recruited in the cities.

The peach crop ripened rapidly and the fruit was scarce and small in size, resulting in about 34% normal crop. Apples were generally small in size, though well-colored. The light set, followed by considerable worm injury cut the original apple estimate to about 31% of a normal crop.

In general the crop has been profitable, although the growers are a little confused by recent price ceilings. Looking back, maybe it was just as well that the crop was short, for it is difficult to say whether it would have been possible to harvest it with the available labor supply. The effect of the continued drought on fruit trees is a question. Cover crops seeded in September and early October were still below ground at mid-October.—A. F. VIERHELLER, Sec'y, College Park.

MASSACHUSETTS—It is gratifying to know that, despite the unusual scarcity of seasoned harvest labor this fall, the McIntosh crop has been harvested without the forewarned excessive losses from preharvest dropping as well as mishandling by inexperienced pickers. In the Nashoba area alone (Worcester and Middlesex Counties), approximately one million bushels of McIntosh apples were harvested. Needless to say, a large number of different groups of interested people were required to complete this job. One consisted of a considerable number of British sailors stationed temporarily in Boston. Some of them were brought out from Boston every day and the rest were housed at a camp in Townsend. In Worcester County, for instance, some 353 man-days of labor were provided by these sailors. Individuals worked from a few days to about two weeks. The men were well liked by growers and seemed interested in getting "down to earth" for a little while on Massachusetts farms. I should add that some of the men also helped with the potato harvest.

The second very much appreciated source of labor consisted of colored soldiers from a regiment at Fort Devens. These soldiers—up to 300 at one time—worked out on three-day passes in groups of 10 to 75. Twenty orchardists were benefited by this unexpected harvest labor.

The 50th anniversary of the Massachusetts Fruit Growers' Association will be observed in connection with the annual meeting on January 5 and 6 at Horticultural Hall, Worcester.—LAWRENCE SOUTHWICK, Massachusetts State College, Amherst.

ILLINOIS—Apple crop around here is about all harvested including Calhoun County. Nearly everybody's crop fell short in volume but this loss was made up because they were about to sell nearly all classes of apples at very substantial prices. I believe two-thirds of the apples from Western Illinois were sold direct from orchards to brokers and distributors, the other one-third going into storage in the growers' name.—C. C. MAST, Sec'y, Quincy.

IOWA—The 32nd annual convention of the Iowa Fruit Growers Association will be held at Iowa State College, Ames, Iowa, November 18 and 19 in connection with the 78th annual convention of the Iowa State Horticultural Society. The leading topics for discussion will be on Small Fruits and will be led by Dr. A. S. Colby of the University of Illinois and a Symposium on Top-working of Fruit Trees which will be led by Prof. H. E. Nichols of Iowa State College. Victory Gardens will be discussed by George Burkhardt of Mineola, N.Y.

The object of these discussions is to give the latest information on how to produce food for the war effort and to offset the loss of fruit in this state by the November, 1940, freeze.

The apple crop in Iowa this year was extremely light and is thought not to exceed 100,000 bushels. Those who have had fruit for sale have been receiving, for the most part, the retail ceiling price as most of the fruit was sold direct from the producer to the consumer.

We are doing what we can in this state to encourage the planting of more hardy stock orchards. It will be many years before the state produces enough fruit to meet the consumers' demands.—R. S. HERRICK, Sec'y, Des Moines.

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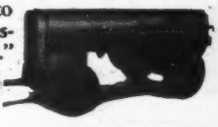

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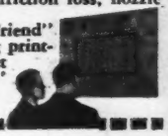

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SPRAYER REPAIRS

(Continued from page 10)

posed to driving rain or snow.

9. Give attention to the rubber tires on your farm machinery. Remove all grease and oil that may be on the rubber. Store the machines out of the sun, or remove the tires and store them in a cool, damp place. If the machine is to be housed for a long time, block up the tool to take the load off the tires.

Many of the spray materials used are quite corrosive to metals. For that reason it is wise to flush out the sprayer thoroughly at the end of each day's work. This can be done by pumping fresh water through all the sprayer parts letting enough flow until the discharge from the gun comes out clear. On sprayers where it is possible to remove the suction line from the tank this can be done quite easily. On sprayers where the suction line cannot be removed from the tank it is advisable to tap onto the suction line so that fresh water may run through the sprayer and clean out all the valves and lines.

When the sprayer is stored for the winter months care should be taken to see that all parts of the sprayer are free from

(Continued on page 14)

REVIEW OF 1943 PEACH SEASON

(Continued from page 7)

this work at the state level through the Extension Service and at the interstate level through the War Food Administration may be expected to be increasingly alert and more responsive. The local effort should accordingly be supplemented with more assurance and less loss of effort in 1944 than was the case this year. Much can be done in this direction by the grower himself through a more helpful and cooperative attitude toward those responsible for coordinating and carrying out our government's wartime program.

A word should be said about the use of high school boys and girls from the city centers as help in the orchard. Those in charge of boys, especially teachers, should try to understand the problem thoroughly from the grower's standpoint. The grower has been to a heavy expense in bringing the crop to a climax at picking time. His profits of the season are involved—including his ability to pay his labor. What the grower is most concerned about at picking time is the price level and the *assurance* that the labor he has at hand will and can do the job. As the crop comes on picking has to be timed definitely to the stage of maturity. Weather, market "gluts," breakdowns in equipment and limits in personnel, all place the grower "on the spot." A delay of a few days causes him trouble. The local neighbor help understands all of this, but the city boy must go through a season to even begin to know the problem. So, speaking directly to those in charge of the boys just unloaded at the orchard or packing shed, let me say that here is a real opportunity for the schoolmen to help both the boy and the grower. The boy is, perhaps, for the first time placed in a "learning situation" which involves the orchard values. Lasting impressions will be made on his mind toward those values if not toward *work* as such. This must not be forgotten by the educational world. From then on boys will look back on the summer's experience as a turning point in their careers.

After sitting backstage for the last two seasons and listening to the comments of teachers, growers, and boys as well, after the summer's work is over, one gets conflicting stories, of course, but out of it all, here and there appear instances where individuals or neighborhoods have "clicked" on the neighborhood effort. This whole problem offers such opportunities from the man-building angle that peach growers generally can well afford to give it careful and sympathetic study and support. Fortunately the kind of a man, who loves peaches and who likes to make his living growing them, will do just that.

Turning now to another phase of the past season's experience, one thing which stands out is this: When the public pays a high price for peaches it expects quality. This holds true whether peaches are to be eaten fresh or canned. Quality, then, is one thing the peach world will have to reevaluate. Fortunately, this will be easy for peach growers, because of all of the fruits grown the peach stands out, when fully matured, in possessing qualities of appearance, aroma and flavor which make it irresistible. This facts needs to be built up in the public mind and in the trade as well. The answer lies in keeping green and immature peaches on the trees and off the market. That portion of the crop which is picked too green, i.e., before the background color (in yellow peaches) has assumed a yellowish cast, (or a whitish cast in white peaches) must be reduced to a minimum and finally eliminated. The immediate and increased response of the consumer to the peach when it comes on the market will be the reward of a concerted move in this direction in the peach world.

The article in the June, 1943, issue of the AMERICAN FRUIT GROWER, by R. V. Lott, could very well be reviewed in order to understand what is involved in the relation between the stage of maturity and quality in the peach. Growers should review this whole situation as it reflects upon the quality of fruit put on the market. There will probably be no compromise on this point with the public because the response to a good ripe peach is universal. Studies at the University of Illinois show that some growers begin picking at least a week too early. Very little is gained by this early picking in carrying or shipping distance and much is lost in quality and yield. The figures show that for every day a full crop of well-thinned fruit is left on the tree a mature orchard of 40 or 50 acres will build up about a carload of peaches through the natural increase in size. This much of an increase is worth giving careful attention. The bushel basket, which is so generally used in the eastern states and to which the industry is so generally adapted, can be safely used as a container for riper peaches when the shipping temperatures are given careful attention. Precooled shipments enable the grower to take nearly full advantage of greater maturity so universally demanded by the consumer.

To those who have given the peach problem study, it is apparent that we have settled down to a south to north type of production. The crop starts in Georgia and the Carolinas and production moves north with the season and ends when the acreage in Michigan, Ohio, New York and Ontario comes in. Then about midseason there is a west to east distribution of the western crop, which in a good many respects runs counter to or at least supplements the south to north supply in the eastern states. The trade has become adjusted to this situation and growers should realize that the quality of the product, variety or condition considered from each section is well known to the buyer. The reputation of a growing region, therefore, is either an asset or a handicap which must be reckoned with. We should not overlook the fact that, because anything could be sold this year, the memory of the trade for the different regions will come into play in the seasons ahead without any apparent slack.

There is renewed interest in hardy varieties. With a high price level in prospect last year the fruit bud killing was followed as never before during the winter months. The light set that followed the bloom period was more disappointing by far than usual. Everywhere growers have been evaluating varieties as to their ability to produce under the conditions of the past season and at the same time in the peach growing regions the better sites have also been singled out. We came through the past season, therefore, with renewed interest in hardy varieties and the better sites as well. Growers should take an increased interest in keeping up the soil fertility of those sites which possess a high production level.

In the years ahead, peach growers will be confronted with many problems which can be met only in part by local action and analysis. The broader treatment of them in representative national organizations will be required. Fruit growers are now at the point where they must think and act nationally if not internationally.

Finally, it will be apparent to the leaders in the peach industry that we must focus our thinking on the possibility of a heavy yield next year. If this does occur then we will all have to "scratch gravel" under present conditions. A good start toward orderly marketing from the southern production areas will mean much to the peach industry as a whole.

APS

ANNUAL CONVENTION

TEN State Horticultural Societies are joining the American Pomological Society in its 59th convention. The Missouri State Horticultural Society is the host society and the convention will be held at St. Louis, De Soto Hotel, December 13, 14 and 15. A new variety fruit show is being planned, the allied industries dinner will again be a feature and the program as now outlined promises to be exceedingly interesting. Ten state horticultural societies have already signified their intention of sending delegates to the meeting.

The program will feature wartime themes. The lead-off theme will be "National Problems of the Fruit Industry." Discussions will center on Production, Regulated Marketing and Price Controls. Then comes "Peach Problems-Central States Area" followed by "Things to Come in Horticulture After the War." A perennial question provides the theme "Where Do We Stand on Codling Moth Control?" Another theme of general interest is "New Fruit Growing Problems"; the sub-heads for discussion are Russeted Apples, Apple Diseases, New Fungicides, New Insecticides and Spraying Methods.

This program is the result of the work of a joint program committee. It is evident that this committee has done a good job in arranging a thoroughly well balanced program suited to the needs of the time.

Just this morning your secretary received a most pointed and suggestive letter from Prof. W. W. Magill, Field Agent in Horticulture, Lexington, Kentucky. He raises some very interesting questions which will, I believe, be of general interest to many fruit growers. The following is quoted directly from Prof. Magill's letter:

"The tentative program you men have set up for the American Pomological Society meeting, at St. Louis, for early December, causes me to believe that this may be one of our outstanding A.P.S. meetings of several years. Since the first draft says 'tentative,' I assume that a suggestion for an additional topic of discussion might be in order, and if I may suggest one, it would be something like this, 'Figuring Federal and State Income Taxes on Orchards.'

"My reason for suggesting such a topic is that some of my clients in Kentucky, as well as a couple of friends who have orchards in adjoining states, have asked me how certain issues should be handled and, so far, I have not been able to locate anyone who can answer them. Fortunately, some of our orchard men in Kentucky, both with apples and peaches, have hit the 'jack pot' this year, and I assume this one reason may have led to some of these particular questions. For example, here are a few:

"1. The peach crop in a certain orchard bore a full crop and, needless to say, paid off well; however, the overload of fruit broke practically all of the producing limbs, not to such an extent that the peaches failed to mature, but the only way known to prune the orchard will be to cut the limbs back to stubs. There was no labor available, at any price, for thinning the crop, otherwise the breakage might have been prevented. There is no chance for a productive crop for the next two years, or until the trees grow a new top. What are his losses and how can they be shown as deduction on his income tax report?

"2. A commercial apple orchard in its seventh growing year was swept by fire of unknown origin, in early September. The orchard contained a good cover crop that was dry from lack of rains the past two months; the trees were well mulched. We consider the 10-acre burn-over, before the fire could be stopped, at a total loss and the trees will have to be pulled. The owner says he doesn't know what his loss is in terms acceptable to the Income Tax group, but is certain he has spent more than $200.00 per acre in growing the orchard. How should this appear on his tax sheets for the year?

"3. Orchard field mice take quite a liking to the Golden Delicious variety of apples. 250 trees were girdled to the extent that they will be pulled out this fall and reset. How much is the grower eligible to deduct in the way of losses from this cause, of his tax records for 1943?

"4. A commercial peach orchard of 2,000 trees contains a certain block of 400 trees that the owner considered had about run their course, and after the crop was killed in April, he pulled them out. What are the losses from this block, so far as tax records go?

"5. A commercial sour cherry orchard, some 12 years old, has 200 dead trees showing up this spring and summer. What can this owner deduct from his income tax report this year and be within reason?

"6. A Golden Delicious orchard, just in its prime of 15 years, set such a heavy crop that the trees broke all to pieces, and winter pruning will necessitate the final removing of three-fourths of the productive limbs. What can this grower show on his income tax sheet?

"I am assuming that someone connected with the federal income tax regulations will eventually have to pass on some deductions of the nature I have briefly described. I think most of our growers try to be honest in turning in their income tax records and they would like to know in advance what they should do.

"I am wondering if your program chairman could invite somebody who is supposed to be an authority, from the income tax group at Washington or St. Louis, and have them give us a ruling of what would or would not be accepted on our records. I believe this one subject appearing on the program would draw at least five persons from Kentucky to attend the meeting in St. Louis, above any and all other considerations that might be discussed in the general program."

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APPLE CEILING OBSERVATIONS

ON October 6 the O.P.A. issued Amendment 9, M.P.R. 426 placing fresh apples under price control, effective October 7 on f.o.b. country shipping point prices in certain states, and on October 22, as to all other ceilings.

The National Apple Institute points out that the country is divided into six zones; zones 1 and 6, including the big producing areas in the Northeast and Northwest respectively. For October sales to consumers the maximum prices in zones 1 and 6 were set at 9½ cents per pound; in zones 2 and 5, 10 cents per pound; and zones 3 and 4, 10½ cents per pound. On November 1, December 1, February 1 and April 1 these consumer ceilings advanced ½ cent in each zone. These advances are reflected back to the country shipping point in ⅜ cent per pound increases for each of the above periods.

Maximum prices f.o.b. shipping point for shipment outside each state apply only to Idaho, New York, Oregon, Pennsylvania, Virginia, West Virginia and Washington. From October 7 through October 31 the f.o.b. ceilings were 5¾ cents per pound in these particular states.

Other states do not have f.o.b. shipping point ceilings, but do have per pound ceilings at delivery to retailers, to intermediate handlers on less-than-car-load or less-than-truckload lots, as set forth in tables of prices in the order, and to carlot distributors the maximum price is the price delivered to retailers less one cent per pound.

Brokers may charge 3 cents per package above the applicable market ceiling for packages weighing 40 pounds or more net, 2½ cents for lighter packages while carlot distributors may add 5 cents or 4 cents, for handling packages of corresponding net weights.

For carlot or trucklot shipments from the states of New York, Pennsylvania, Virginia and West Virginia to points outside each state to points in zones 1, 2 and 3 the maximum price at wholesale receiving points is the f.o.b. shipping point ceiling plus freight, but to points in zones 3, 4 and 5, it becomes the local less-than-carlot ceiling to retailers less one cent per pound; and vice versa from the states of Idaho, Oregon and Washington add the freight to f.o.b. shipping point to markets in zones 6, 5 and 4, but to zones 3, 2 and 1 use the local ceiling to retailers in zone of destination less one cent per pound.

Interpretations of specific cases are made by local O.P.A. offices, so when you can, get such questions answered at your nearest O.P.A. office.

SPRAYER REPAIRS

(Continued from page 12)

water. This can be done by removing all drain plugs from the lower line and the pump itself. Removal of cylinder heads in many cases will assure you that all water has been drained out of the pump. Before starting the engine again turn the pump over by hand by cranking the engine to be sure that all parts are free.

If you wish to prevent the plungers from drying out and prevent all parts of the engine from corrosion at the end of the season, pump it through some crankcase oil. This is a good practice if you are careful to wash out all spray solution before putting the oil through the pump. Before using the sprayer again next year be sure to wash out all oil residues with clear water before putting in any spray solution. Care should be taken before putting in oil for the winter months to drain out all water pockets so that no damage will result due to freezing. Some users prefer a dormant spray oil for protection during storage.

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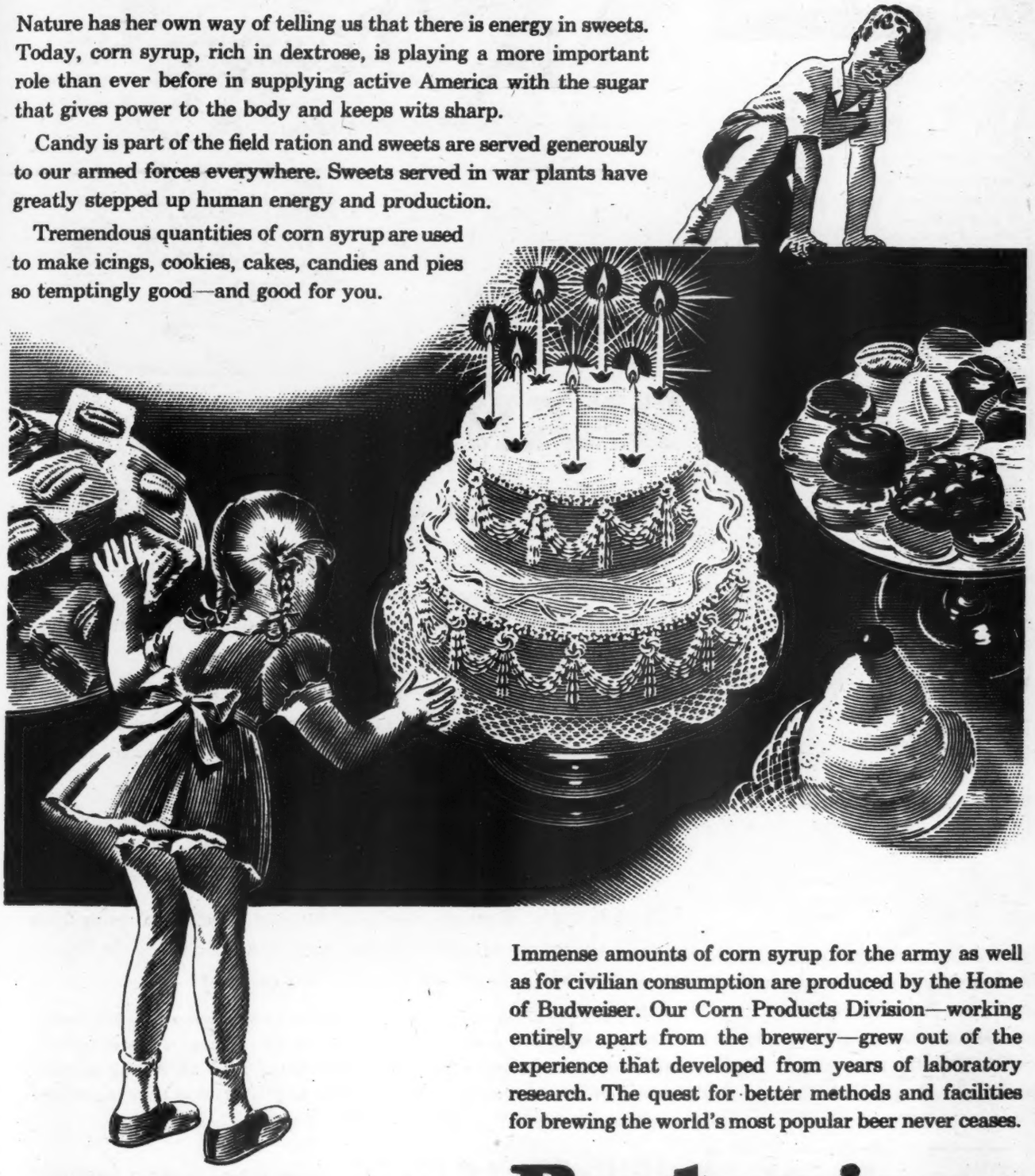

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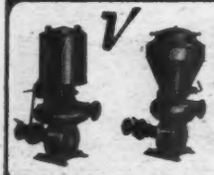

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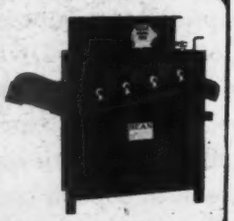

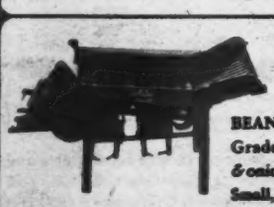

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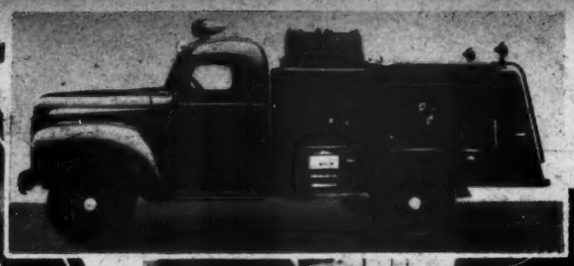

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